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ABSTRACT:

To increase the strength and loading capacity of a scaffolding frame panel without significant weight increase, the longitudinal spars 2 of the frame are formed of polygonal hollow bodies, preferably of sheet steel, which are bounded by flat wall surfaces arranged at right angles to one another. The longitudinal spars 2 are of course connected at their respective ends by transverse metallic strips 4 which may be V-profiled or tubes of rectangular cross-section and wooden planking 3 is fixed into the frame as a walking and working surface. Fastening claws 5 are located on the transverse strips.

<IMAGE>

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GB A 2074225 GB 1369747  
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E1S

## (54) Scaffolding frame panel

(57) To increase the strength and loading capacity of a scaffolding frame panel without significant weight increase, the longitudinal spars 2 of the frame are formed of polygonal hollow bodies, preferably of sheet steel, which are bounded by flat wall surfaces arranged at right angles to one another. The longitudinal spars 2 are of course connected at their respective ends by transverse metallic strips 4 which may be V-profiled or tubes of rectangular cross-section and wooden planking 3 is fixed into the frame as a walking and working surface. Fastening claws 5 are located on the transverse strips.

Fig.3

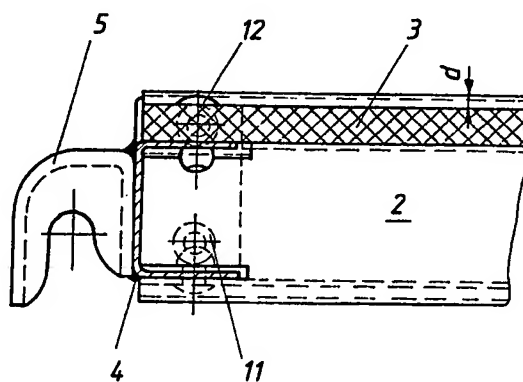
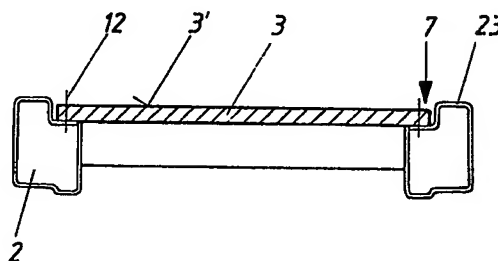


Fig.6

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Fig. 1

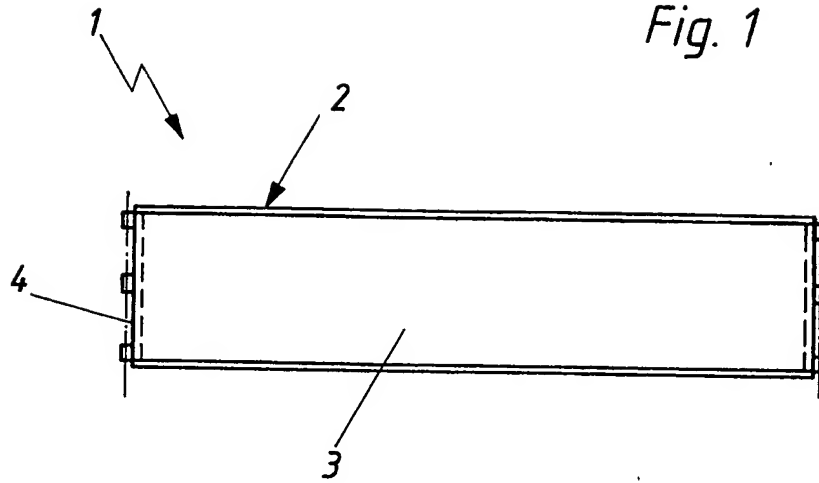
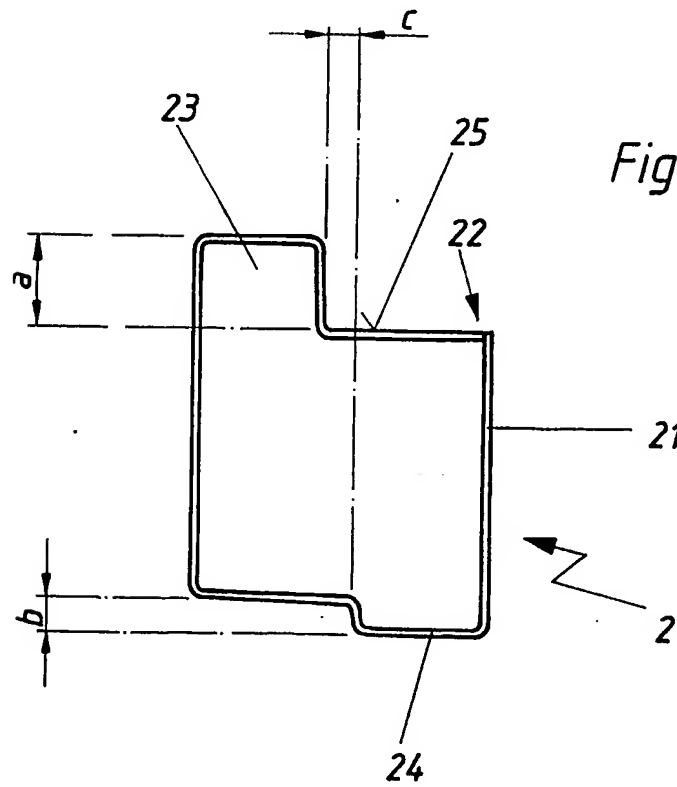
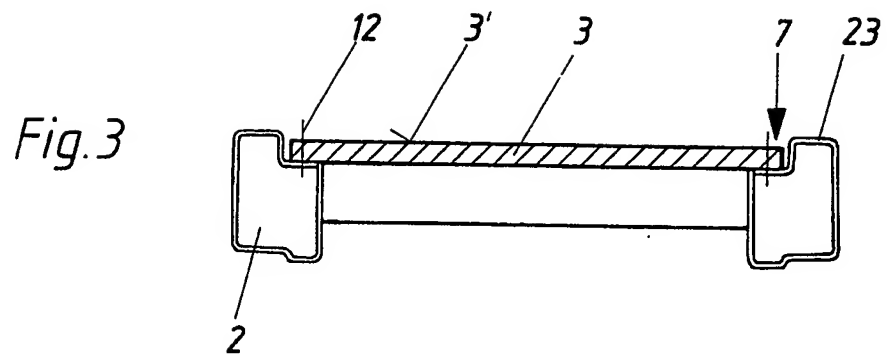
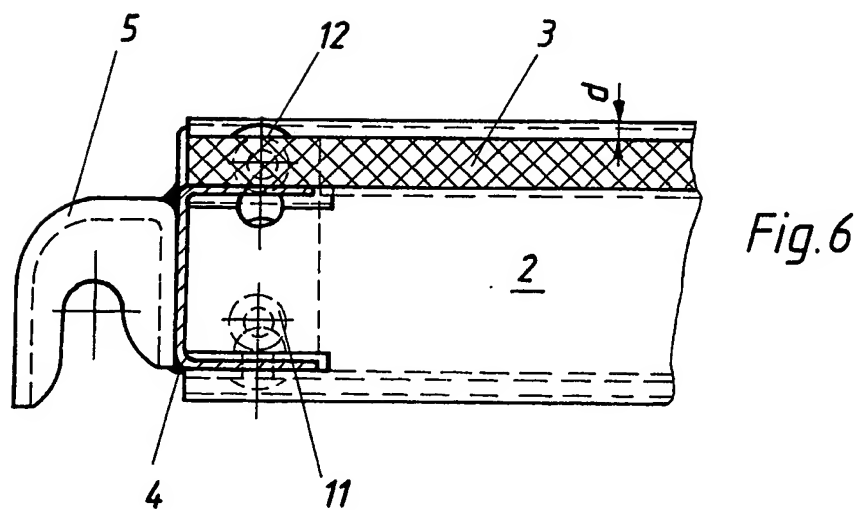
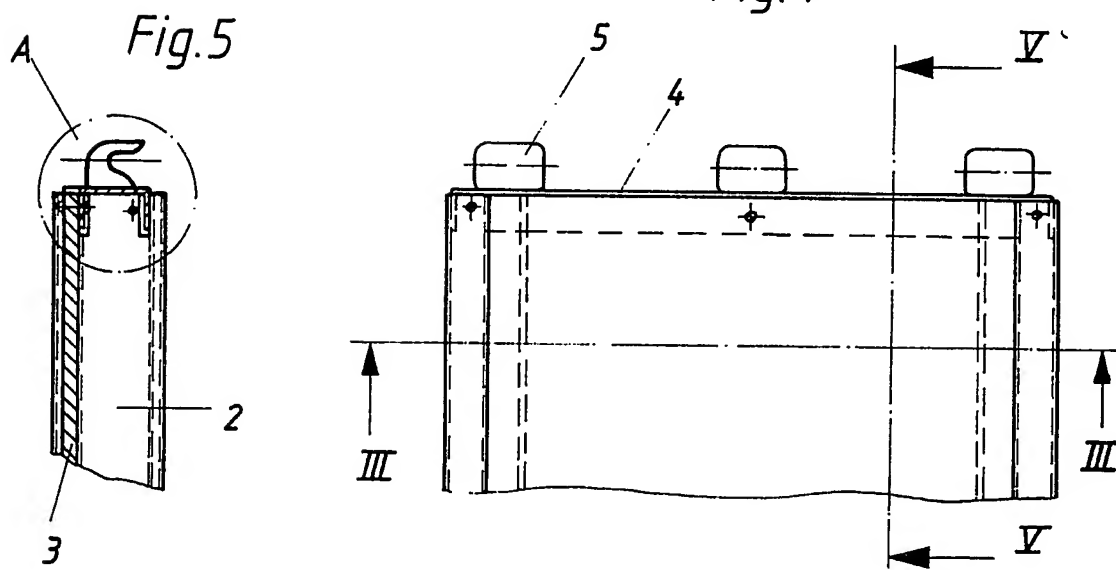


Fig. 2





*Fig.4*



## SPECIFICATION

## Scaffolding frame panel

5 This invention relates to a scaffolding frame panel consisting of a metal frame inside which a walking and working surface in the form of wooden plank-

10 Frame panels of this kind are known in which the longitudinal spars of the metal frame consist of extruded aluminium profiles and these are connected by transverse strips. The loading capacity of these frame panels, particularly where they are large in length and/or width, is, however, limited.

15 The object of the invention is, therefore, to provide a frame panel which will have a greater loading capacity without a considerable increase in its own weight.

20 In accordance with the invention, this is achieved in that, in the case of a frame panel of the kind mentioned at the beginning hereof, the longitudinal spars of the frame, which are connected at their ends by respective metallic transverse strips, are formed of polygonal hollow bodies, preferably

25 produced from sheet steel, which have substantially flat wall surfaces arranged substantially at right angles to one another. This tube-like design of the longitudinal spars of the frame makes it possible to use high-grade steel

30 without an undesirable increase in the weight of the frame occurring. Since the polygonal tube profile ensures very good strength properties, it is possible in the case of lesser stressing (for instance in the case of short frame panels) to produce the longitudinal spars from another material

35 instead of sheet steel. The invention will be described further, by way of example, with reference to the accompanying drawings, in which:

40 *Figure 1* is a schematic plan view of a practical embodiment of the scaffolding frame panel of the invention;

45 *Figure 2* is a cross-section of a longitudinal side spar of the frame panel shown in *Figure 1* to a considerably enlarged scale;

50 *Figure 3* is a transverse cross-section of the same frame panel along the dot-dash line III-III in *Figure 4*;

55 *Figure 4* is a fragmentary, enlarged plan view of one end of the same frame panel;

60 *Figure 5* is a longitudinal section of the same frame panel along the dot-dash line V-V in *Figure 4*; and

65 *Figure 6* is an enlargement of the portion A from *Figure 5* still in longitudinal section.

A practical embodiment 1 of the frame panel of the invention, as shown in *Figure 1*, consists of a frame, which is formed from longitudinal spars 2 and transverse strips 4, and of wooden planking 3 which is inserted into this frame and forms a walking and working surface.

Each of the longitudinal spars 2 consist of a polygonal tubelike hollow body of sheet steel. The steel walling 21 of the body is closed by a welding

70 a Turk's head consisting of appropriately arranged rollers, into a profile, as shown in *Figure 2*. This profile is composed of horizontally and vertically extending flat wall surfaces which connect to one another at right angles. Along the longitudinal side of each longitudinal spar 2 which is external relative to the interior of the frame, and on the upper side thereof, a raised step 23 is provided in such a way that there is a bearing surface 25 bounded by

75 it for the wooden planking 3. The super-elevation  $a$  of this step 23 is such that, after insertion of the wooden planking 3 (see *Figure 3*), the step 23 projects beyond the upper surface 3' of the planking at 7 by a specific amount  $d$  (*Figure 6*). The underside of each longitudinal spar 2 has a step 24 of slight height  $b$  which is directed downwards along the side adjacent the interior of the frame. When a number of frame panels are stacked one above the other, this step 24 serves to prevent lateral shifting, in that it lies adjacent to that part of the upper step 23 which protrudes by the amount  $d$  with a slight spacing therebetween. In other words the width of the step 24 is such that, upon stacking, there is only a small intermediate space  $c$  between the two steps 23 and 24 of the frame panels which lie one above the other, which space  $c$  makes the stacking possible (see *Figure 2*).

90 The two longitudinal spars 2 are connected at the respective ends of the frame panel by metallic transverse strips 4, which may, for example, consist of a U-profiled strips of sheet steel. These strips 4 are secured to the longitudinal spars 2 for instance by welding or by means of a bent strap and blind rivets 11 (*Figure 6*). Instead of a U-profiled strip, a tube of rectangular cross-section can be used.

95 The planking 3 is usually plywood or laminated wood, in which respect the latter is always inserted so that the fibre direction extends transversely to the longitudinal axis of the frame panel. In this way additional stiffening of the frame panel is obtained. The wooden planking 3 is fastened to the longitudinal spars 2 by blind rivets 12 which are provided at intervals.

100 Fastening claws 5 are located on the transverse strips 4 which are provided at the ends of the frame panel.

105 The invention is not limited to the exact details of the illustrated embodiment and several alternatives are possible. Thus, for instance the profile of the longitudinal spars can be produced in such a way that, instead of a welding seam 22, a scarf joint or rabbet connection is provided, which is then advantageously located in the lower horizontal surface of the profile. It can then, thanks to the greater material thickness which is achieved by the fold or rabbet, also be utilised to absorb the severe tensile stress which occurs upon loading in the lower part of the longitudinal spars. Other variations are possible within the scope of the claims.

## CLAIMS

130 1. A scaffolding frame panel consisting of a metal frame inside which a walking and working

surface in the form of wooden planking is arranged, characterised in that the longitudinal spars of the frame, which are connected at their ends by respective metallic transverse strips, are formed of polygonal hollow bodies, preferably produced from sheet steel, which have substantially flat wall surfaces arranged substantially at right angles to one another.

2. A scaffolding frame panel as claimed in claim 1, characterised in that the upper side of each longitudinal spar has a step 23 extending longitudinally of the spar, which step is superelevated on the outside of the frame in such a way that on the inside of the frame there is a bearing surface, bounded by this step, for the wooden planking.

3. A scaffolding frame panel as claimed in claim 2, characterised in that the superelevation of the step extending longitudinally on the outside of the upper side of the longitudinal spars is so great that the step projects beyond the upper surface of the wooden planking.

4. A scaffolding frame panel as claimed in claim 3, characterised in that the underside of each longitudinal spar has, on the inside of the frame, a longitudinally-extending downwardly-directed step of slight height, the width of this step being such that upon stacking of scaffolding frame panels, it lies adjacent to the inside of the step provided on the upper side with a slight spacing therebetween.

5. A scaffolding frame panel as claimed in any preceding claim characterised in that the respective ends of the longitudinal are connected to one another by U-profiled strips or tubes of rectangular cross-section.

6. A scaffolding frame panel as claimed in claim 5, characterised in that fastening claws are fastened to the U-profiled strips or the tubes of rectangular cross-section.

7. A scaffolding frame panel as claimed in any preceding claim characterised in that the wooden planking consists of plywood planks which are secured to the metal frame by means of rivets.

8. A scaffolding frame panel substantially as hereinbefore described with reference to and as illustrated in the accompanying drawings.